

Marine Aquarium Council

Best Practice Guidance for the Core Collection, Fishing, and Holding International Performance Standard for the Marine Aquarium Trade

Issue 1 – July 1, 2001

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MAC Standards Review and Committees Responsible for This Document

This Best Practice Guidance document is intended to be read in conjunction with the MAC Core Collection, Fishing, and Holding Standard and will be in effect until at least July 1, 2003.

This Collection, Fishing, and Holding Best Practice Guidance document and its accompanying Core Standard will also be used in a series of test certifications, the feedback from which will be reviewed at a MAC Certifiers Workshop.

Suggested amendments to both will be forwarded to the MAC Standards Committee for their review.

Amendments Issued Since Publication		
Amend. No	Date	Description of Amendment
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HOW TO USE THIS BEST PRACTICE GUIDANCE DOCUMENT

This Best Practice Guidance document has been written to assist stakeholders—especially, resource managers, collectors, and industry operators seeking to be certified—in interpreting and achieving compliance with the MAC Core Standards.

This Best Practice Guidance document does not describe additional requirements beyond those already contained in the MAC Core Standards but provides clarification, background information, and examples of how compliance could be achieved. This document contains a series of recommendations on methods and techniques and describes the type of evidence that certifiers will be looking for when undertaking an assessment of compliance with the MAC Core Standards. It includes the types of documentation of practices, policies, procedures, and historical records that should be made available by the certification client to expedite the audit process.

This Best Practice Guidance document is also meant to help certifiers identify the types of issues they will need to research and develop investigative tools for their research. The examples in this document are not exhaustive.

This Best Practice Guidance document is also a teaching tool for those who are developing techniques for implementing the appropriate MAC Core Standard and monitoring ongoing compliance.

The MAC Secretariat has published this document based on consultation with stakeholders and the input of the Standards Advisory Group. As MAC Certification audits are conducted, data from participants and other stakeholders will enable the Marine Aquarium Council to improve and update this guidance document. The Marine Aquarium Council asks certifiers and other users of the MAC Certification to comment on and share their experiences using this document.

Best Practice Guidance: MAC Core Collection, Fishing, and Holding Standard

0.1 Purpose

To provide guidance on how to comply with the requirements of the MAC Core Collection, Fishing, and Holding Standard so that the collection and fishing, holding, and pre-exporter handling, packing, and transport of marine aquarium organisms ensure the ecosystem integrity of the collection area, sustainable use of the marine aquarium fishery, and optimal health of the harvested marine aquarium organisms.

Note: Some buyers have their own staff collectors and fishers or a team of retained or independent collectors and fishers. Therefore, in some instances, the terms collector/fisher and buyer may be interchangeable.

1 Order Instruction Requirements

1.1 Order Documentation

- 1.1.1 Collectors and fishers should be able to demonstrate or document how they communicate in a timely manner with their buyer and whether this communication is through a middleman or transporter and/or by telephone, email, fax, etc.

Instructions from buyers to collectors and fishers must include when, what, where, and how many marine aquarium organisms are required to be collected.

In a situation of collecting to stock, buyers should be able to demonstrate or document how they inform the collectors and fishers of species that they do not wish collected.

1.2 Review of Order Instructions

- 1.2.1 Collectors and fishers should be able to demonstrate or document how they interpret the orders placed with them by the buyer and how this is transferred, if necessary, into a clearly understandable format.
- 1.2.2 Collectors and fishers should demonstrate or document how they interpret their buyer's requirements. They should also be able to demonstrate or document the agreed method of communication and record keeping they use to inform the buyer if they are unable to meet his/her requirements.

The collector or fisher's name should be recorded for each marine aquarium organism or batch of marine aquarium organisms and made available to the buyer.

Collectors and fishers should be able to demonstrate or document that they:

- fully understand the requirements of their buyer and inform him/her when it is not possible to fulfill an order; and
- are fully aware of when individual species are available.

Problems arise from assumptions made by both parties. To avoid this, collectors and fishers should be able to demonstrate or document the requirements of their buyer when these are given verbally. Where innumeracy and illiteracy are a problem, collectors and fishers should be able to demonstrate how all parties understand the requirements. As an example, this may be by a tally type of labeling system where numbers are checked by placing an "X" in a box.

1.3 Process Documentation

1.3.1 Collectors and fishers should be able to demonstrate that they plan their collection activity so that it is performed in a skilled and consistent manner in line with the requirements of the buyer.

Collectors and fishers should document or demonstrate that they are able to:

- identify the appropriate collection and fishing equipment;
- decide upon regular checks (e.g., on water quality, etc.) that have to be undertaken;
- ensure that a collection logbook or similar record keeping is completed for each trip;
- produce and access documented work instructions, which could include photographs or diagrams; and
- allocate skilled and trained divers, if they manage the collection team activities.

To become MAC Certified, collectors and fishers will have to demonstrate that they:

- understand what species they are required to and are allowed to collect or fish;
- understand where they are permitted to collect or fish;
- are trained in using the appropriate collection and fishing equipment;
- are trained in maintaining the optimal health of the marine aquarium organism from the time it is collected until the time it reaches an export facility;
- separate marine aquarium organisms from certified and non-certified collection areas; and
- maintain a logbook of when, where, what was collected or fished. (The buyer may maintain this logbook on their behalf.)

2 Ability to Meet Collection Area Management Plan Requirements

2.1 Compliance with Relevant National and Local Laws and Regulations

2.1.1 Collectors and fishers should be able to demonstrate or document that they possess or have immediate access to any legal or other requirements placed upon them with respect to when, where, how, and who are permitted to collect marine aquarium organisms taken from the certified collection area.

Collectors and fishers should be able to demonstrate or document how they ensure that what they have been asked to supply does not conflict with local and legal regulations and that they have clearly identified the additional care and diligence required when dealing with the batching and handling of marine aquarium organisms with special safety, health, or other requirements.

2.2 Compliance with Collection Area Management Plans

- 2.2.1 Collectors and fishers should be able to demonstrate or document how they ensure that their activities are not in breach of the Collection Area Management Plan produced by those managing the fishery.

If a buyer produced the Collection Area Management Plan, it should be easy to demonstrate how the requirements of the Plan are relayed to collectors, fishers, etc.

In all cases, collectors and fishers should be able to demonstrate or document how they are kept aware of the contents of the Collection Area Management Plan.

2.3 Compliance with Government Fishery Management Plans

- 2.3.1 Collectors and fishers should be able to demonstrate or document that they clearly understand and comply with any management plan and/or collection requirements produced by a governmental fishery management authority (e.g., gear requirements/restrictions, limits to the numbers and/or marine aquarium organisms allowed for collection and fishing, time and area limits to effort, and reporting requirements).

3 Marine Aquarium Organism Collection and Fishing

3.1 Assignment of Personnel

- 3.1.1 Collectors and fishers should be able to demonstrate or document that they have the appropriate training or experience for all collection and fishing activities undertaken.

3.2 Training of Personnel

- 3.2.1 Collectors and fishers should be able to demonstrate or document that they have passed a MAC approved training course or have at least six months experience using MAC certifiable techniques (i.e., techniques described in MAC approved training courses).

Collectors and fishers should demonstrate or document their minimum training needs for each activity being performed.

Where a buyer employs or retains collectors and fishers on a long-term basis, he/she should undertake and document onsite audits of the collectors' and fishers' ability to undertake their activities in the appropriate manner.

3.3 Knowledge of Marine Aquarium Organisms Collected

- 3.3.1 Collectors, fishers, boat handlers, etc. should maintain reference information on all species they collect, fish, handle, or transport. Such information should be available in the field and should, for example, include:
- diagrams or photographs on each species collected or fished;
 - any segregation or environmental issues that affect the handling, storage, or husbandry of each species; and
 - a list and diagrams or photographs of unsuitable species.

3.4 Compliance with Workplace Laws

- 3.4.1 Collectors and fishers should be able to demonstrate or document that they are aware of, and in compliance with the health and safety criteria relevant to their collection and fishing activities (e.g., boatmanship, scuba diving, and the use of a hookah).

- 3.4.2 Where buyers provide boats, equipment, etc. for collection and fishing purposes, they should comply with the aspects of their use relevant to national and local laws, e.g., pressure testing of scuba and hookah gear and seaworthiness of boats.

All scuba and hookah users should be independently certified to at least open water diver status.

- 3.4.3 Responsible occupational safety criteria require that the minimum age of divers should be 16 years of age or the minimum age stipulated by local labor laws, which ever is highest.

Collection and fishing can be a "family" activity, and the occasional travel with a collector or fisher of a junior member of the family is acceptable.

Collectors and fishers should be able to demonstrate or document that no person under the age of 16 years dives greater than 2 meters (6 feet) under any circumstance.

3.5 Health and Safety

- 3.5.1 Collectors and fishers should be able to demonstrate or document how diving equipment is maintained. This evidence should consist of, but is not limited to,

For hookah diving and scuba tank-filling compressors:

- engine oil is not being used for lubrication of the compressor;
- the equipment is regularly serviced and maintained;
- compressor filtration is regularly serviced;
- a recognized silicon compressor oil is being used for gear lubrication; and
- standard hookah filtration is being used.

For scuba diving tanks:

- air cylinders are regularly serviced and pressure tested.

4 Collection and Fishing Management

4.1 Control of Collection

- 4.1.1 Collectors and fishers should possess or have immediate access to any legal or other requirements placed upon them with respect to when, where, how, and who are permitted to collect marine aquarium organisms.

Collectors and fishers should be able to demonstrate or document how they ensure that the use of chemical substances to collect fish is prohibited and how they make this known to their buyers.

Collectors and fishers should be able to demonstrate or document that they are fully conversant with the requirements of the Collection Area Management Plan. They can demonstrate to their buyer and the certifier that they are not using destructive collection and fishing methods by having the following:

- negative CDT results;
- certificates of training;
- low DOA records; and
- the gear that they use for fishing.

- 4.1.2 Collectors and fishers should be able to demonstrate or document that they:

- can identify the appropriate collection equipment;
- have the ability to decide upon any regular checks (e.g., on water quality, etc.) that have to be undertaken;
- can ensure that a collection logbook or similar record keeping is completed for each trip;
- have documented work instructions, photographs, or diagrams produced and readily available; and
- allocate skilled and trained divers, if they are a collector manager.

Collectors and fishers should be able to demonstrate or document that they are aware of:

- how and when to test water quality and properly record the test;
- how to identify the species that they have been asked to collect or fish; and
- the equipment that they are required to possess.

Best practice and safety dictates that free and compressed air divers should possess and be able to demonstrate or document that they can use the following suitable equipment:

- **Free Diving Collectors**
 - (a) Diving mask.
 - (b) Snorkel.
 - (c) Flippers.
 - (d) Weight belt.
 - (e) Tickler bar.
 - (f) Scoop net.

- (g) Barrier net.
- (h) Buckets:
 - color preferably darker colored although situational dependent if heat absorption becomes a problem;
 - size minimum should be 20 liters;
 - length minimum should be 18 inches or 45 cm;
 - top side should be perforated, and floaters can be use to make the container float; and
 - should be covered to prevent heat from the sun.
- (i) Opaque perforated topside jars for good water circulation and separation of species.
- (j) Net bag to hold jars.
- (k) Gloves.

- **Compressed Air Divers**

- (a) Diving mask.
- (b) Flippers.
- (c) Weight belt.
- (d) Tickler bar.
- (e) Scoop net.
- (f) Barrier net.
- (g) Buckets:
 - color preferably darker colored although situational dependent if heat absorption becomes a problem;
 - size minimum should be 20 liters;
 - length minimum should be 18 inches or 45 cm;
 - top side should be perforated, and floaters can be use to make the container float; and
 - should be covered to prevent heat from the sun.
- (h) Opaque perforated topside jars for good water circulation and separation of species.
- (i) Net bag to hold jars.
- (j) As a minimum, an open water diving certificate or an equivalent recognized training certificate.
- (k) Air wand to herd fish using compressed air.
- (l) Gloves.

Collectors and fishers should be able to demonstrate or document that they can undertake the following practices:

- **Fish Decompression**

Fish should be decompressed wherever possible by raising them slowly to the surface.

- **Fish Decompression by Gradual Depth Change**

- (a) Self-decompression of fish in buckets or jars should be given adequate time. The minimum time should be stated in work instructions.
- (b) Decompression of fish caught at 30 meters depth should start at 20 meters. The fish should be brought slowly to a depth of 10 meters.
- (c) A notched rope is a preferred method of controlling

decompression.

- **Fish Decompression by Spiking the Air Bladders**

Collectors and fishers should be able to demonstrate or document that they can correctly use a hypodermic needle to puncture the air bladder of the fish. This should be according to written procedures and only undertaken by individuals especially trained for that activity. The Marine Aquarium Council prefers that the gradual depth change method of fish decompression is used wherever possible.

4.2 Care of Buyer's Property

4.2.1 Collectors and fishers should be able to demonstrate or document that they can store and use the buyer's property in the appropriate manner and ensure that necessary training is given before its use is permitted. Any damage, loss, or theft should be documented and reported to the owner as soon as possible.

4.3 Control of Nonconformity

4.3.1 Collectors and fishers should be able to demonstrate or document that they can maintain a log of complaints. This log, if used properly, can be an effective self-improvement tool. This documentation system should also contain problems raised by any person within or outside the collecting and fishing organization.

Such a log should contain:

- the nature of the complaint;
- who made the complaint;
- what, if any, short-term corrective action was necessary;
- what long-term corrective action is necessary;
- who is responsible for resolving the issue; and the time scale to close the issue.

5 Holding, Handling, and Husbandry Requirements

5.1 Co-mingling of Marine Aquarium Organisms

Collectors and fishers should be able to demonstrate or document how the marine aquarium organisms from certified and uncertified collection areas are not mixed.

It should be possible at all times following collection and fishing to attribute the collected marine aquarium organism or batch of marine aquarium organisms to a particular collector or fisher and the certified collection area from where it was collected or fished. This can be achieved by using tags, colored plastic pieces, etc.

If collection trips visit both MAC Certified and uncertified collection areas these marine aquarium organisms should be kept physically separate from one another.

5.2 Traceability of Marine Aquarium Organisms

- 5.2.1 Collectors and fishers should be able to demonstrate or document how they maintain the segregation and traceability of collected marine aquarium organisms throughout the journey from the reef until picked up by the traceability system at the buyer's facility.

5.3 Containment of Marine Aquarium Organisms

- 5.3.1
- **On Board Fish Care and Storage Methods**
 - (a) Collection and fishing trips should be limited to a maximum of five days.
 - (b) Float buckets should be used wherever possible.
 - If buckets and jars are used for storage then these should be:
 - (a) stored in the ocean at a depth of 3 meters with good water circulation;
 - (b) soaked in fresh sea water after shipment; and
 - (c) soaked immediately in fresh sea water if a fish dies in them.
 - If plastic bags are used for storage or to transport fish back to buyer then these should:
 - (a) be of adequate size for the fish to have free movement;
 - (b) be clean (no reused bags unless properly disinfected);
 - (c) be used to contain only one fish;
 - (d) have changes of water to maintain optimal health of the fish;
 - (e) be stored in a maximum shaded and cool area; and
 - (f) not be used to hold a fish for more than 24 hours total time.
 - **On Board Coral and Other Invertebrates Care and Storage Methods**
 - (a) Invertebrates should be kept in water, minimizing to the extent possible exposure to air, direct sunlight, and temperature extremes.
 - (b) Hard and soft corals should be maintained in separate containers, according to species, to ensure they are not in direct contact with each other.
 - (c) Corals and other organisms that release large quantities of mucus should have frequent (every few hours) water changes.
 - (d) Animals that are highly osmoregulatory—such as echinoderms, mollusks, and anemones—should have stable water conditions, especially for temperature and salinity.

5.4 Water Quality and temperature

- 5.4.1 Collectors and fishers should be able to demonstrate or document how they maintain water quality and temperature within a container to ensure optimal health of the marine aquarium organism.

This can be achieved in many ways, including, for example, the following:

- shading, frequent water changes using clean water, etc.;
- reducing stress from actions such as too frequent or inappropriate changing of water and moving shade; and

- ensuring a short holding period between capture and delivery to a buyer capable of proper acclimatization.

It is important that the collector or fisher chooses a method or combination of methods to lessen the stress on the marine aquarium organism.

A short holding period between capture and delivery to a buyer capable of proper acclimatization is very important in maintaining optimal marine aquarium organism health.

5.5 DOA and DAA Monitoring

5.5.1 Collectors and fishers should keep accurate records of DOA and DAA at each stage of the collection process when marine aquarium organisms are transferred, e.g., from capture to holding container (DOA) or holding container to transportation vehicle (DAA). These records may be kept as part of their logbook.

Collectors and fishers should be able to demonstrate or document that they can maintain a record of DOA and DAA.

All batches of marine aquarium organisms with a DOA or DAA level above 1% at the species level shall not be considered certified.

5.6 Choosing a Reliable Transport Agent

5.6.1 Collectors and fishers should choose reliable agents for transport of properly packed and segregated marine aquarium organisms.

Where collectors and fishers use an agent or middleman/woman for the consolidation and transport of the marine aquarium organisms that they collect, they should maintain the ability to communicate directly with their exporter buyers.

If mortality rates are above 1% DOA and/or marine aquarium organism health continues to be poor at time of arrival at buyer, then the collectors and fishers should do the following:

- ensure own system of packing is adequate for length and style of journey,
- then work with transport agent and buyer to improve transport methods, and,
- if transport-related mortality problems persist, change transport agents.